

REMARKS

Claims 1-4 are all the claims pending in the application.

I. Response to Claim Rejections - 35 U.S.C. § 102/103

Claims 1-4 are rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by, or in the alternative, under 35 U.S.C. § 103 as allegedly being obvious over US 2003/0113580.

Applicants respectfully traverse the rejection and submit that the Examiner has misinterpreted the present invention.

The Examiner states:

The present application teaches the claimed layer is produced by vapor deposition method, wherein the partial pressure of water present during the deposition method is less than 7.0×10^{-3} Pa (pg. 13, lines 26-30) and then annealing the resulting film at 150-250°C for 0.5-15 hours (pg. 15, lines 20-30). This section teaches if the annealing temperature is 200°C, the annealing time is 1-8 hours. The taught annealing conditions and water partial pressure in the reference fall within the disclosed conditions. The other deposition conditions in the examples of [the] reference all fall within the ranges of the conditions taught in this application. Since the taught process and the process disclosed to produce the claimed phosphor layers are indistinguishable, one of ordinary skill in the art would expect the taught phosphor layer to have a UV-excited emission spectrum which satisfies or at least overlaps the claimed condition, absent any showing to the contrary.

Applicants respectfully submit that the Examiner's understanding of the disclosure in the present specification is incorrect. First, the indicated description in the present specification teaches the procedural conditions *preferably* used for the preparation of the claimed phosphor layer, but does not teach that the claimed phosphor layer is always prepared under the described conditions.

US '580 does not explicitly describe the detailed conditions for the preparation of the claimed phosphor layer. In essence it is the Examiner's position that the phosphor layer of US '580 inherently possesses the same properties as the presently recited phosphor layer. However, Applicants respectfully submit that inherency cannot be established based upon probabilities or possibilities. In this regard, Applicants refer to the experimental data provided in Table 1 on page 22 of the specification. If the HBr partial pressure is too low (as in Comparative Example 1) or too high (as in Comparative Example 2), the produced phosphor layer does not show UV-excited emission of $S_{(400-420)}$ or it shows a large emission of $S_{(400-420)}$, and thus, relatively low sensitivity results in comparison to the phosphor layer recited in the present claims. Therefore, the phosphor prepared in Example 1 of US '580 does not "necessarily" possess the characteristics of the presently claimed phosphor layer. Thus, it cannot be said that US '580 anticipates the presently claimed invention. Further, there is no teaching or suggestion that would motivate one of ordinary skill in the art to modify the disclosure of US '580. Even further, there would not have been a reasonable expectation of achieving the claimed invention based on US '580 as evidenced by the experimental data in the present specification, i.e., based on a comparison of the examples of the claimed invention with Comparative Example 1.

Applicants further note that the procedures of Comparative Example 1 of the present specification are essentially the same as those described in Example 1 of US '580. In contrast, the procedures of Examples 1-3 of the present invention differ from the procedures of

Comparative Example 1 in that the present invention includes the following additional procedure of, at the same time, the EuBr_m in the boat was heated to vaporize by means of a resistance heater in which the electric current was controlled with a resistance power supply (direct current voltage: 4 volts), so that the HBr partial pressure in the deposition atmosphere was kept at 4.2×10^{-5} Pa, as described on page 19, lines 20-25 of the specification. Thus, the phosphor layer of the present invention can be prepared only under the specific conditions of vapor deposition and annealing recited in the present claims.

In view of the above, the present invention is neither anticipated, nor rendered obvious over US '580. Accordingly, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. § 102 or in the alternative under 35 U.S.C. § 103.

II. Conclusion

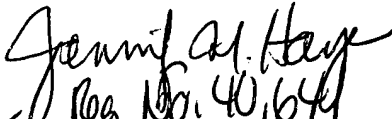
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. APPLN. NO. 10/776,622

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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